**Design Implications**

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| **Major Routes** |
| * [EPG 503](https://epg.modot.org/index.php/Category:503_Bridge_Approach_Slabs): Bridge approach slab (major) for new and replacement bridges. * [EPG 748.2.2](http://epg.modot.org/index.php/748.2_Roadway_Design_Criteria#748.2.2_Crossroad_Structure_Frequency_Criteria_.28Roadway_Design_Frequency.29): Larger design flood frequency for crossroad structures. * [EPG 748.7](http://epg.modot.org/index.php/748.7_Bridge_Deck_and_Bridge_End_Drainage): Drain basins provided on down-grade side of bridges and considered at other locations and situations. * [EPG 751.1.2.8](http://epg.modot.org/index.php/751.1_Preliminary_Design#751.1.2.8_Box_Culverts): Larger minimum roadway fill for requiring pavement/shoulder details with box culverts. * [EPG 751.1.3.4](http://epg.modot.org/index.php/751.1_Preliminary_Design#751.1.3.4_Barrier_or_Railing_Type.2C_Height_and_Guidelines_for_Curb_Blockouts): MASH TL-4 barrier for design speeds > 45 mph. * [EPG 751.10.3](http://epg.modot.org/index.php/751.10_General_Superstructure#751.10.3_Bridge_Deck_Drainage_-_Slab_Drains): Smaller width of gutter flow for design speeds ≥ 45 mph. * [EPG 751.37.3](http://epg.modot.org/index.php/751.37_Drilled_Shafts#751.37.3_Design_for_Axial_Loading_at_Strength_Limit_State) & [EPG 751.37.4](http://epg.modot.org/index.php/751.37_Drilled_Shafts#751.37.4_Design_for_Axial_Loading_at_Serviceability_Limit_States): Smaller resistance factor for drilled shafts. * [EPG 751.38.3](http://epg.modot.org/index.php/751.38_Spread_Footings#751.38.3_Design_for_Axial_Loading_at_Strength_Limit_States) & [EPG 751.38.4](http://epg.modot.org/index.php/751.38_Spread_Footings#751.38.4_Design_for_Axial_Loading_at_Serviceability_Limit_States): Smaller resistance factor for spread footings. |
| **Minor Routes** |
| * [EPG 503](https://epg.modot.org/index.php/Category:503_Bridge_Approach_Slabs): Bridge approach slab (minor) for new and replacement bridges. |
| **Low Volume Routes** |
| * [503](https://epg.modot.org/index.php/Category:503_Bridge_Approach_Slabs): Bridge approach slab (minor) for new and replacement bridges. * [EPG 751.21.1.1](http://epg.modot.org/index.php/751.21_Prestressed_Concrete_Slab_and_Box_Beams#751.21.1.1_Application): Asphalt wearing surface may be used with non-composite prestressed concrete adjacent beams. |
| **Major Bridges** |
| * [EPG 712.1.4.1.4](https://epg.modot.org/index.php/Category:712_Structural_Steel_Construction#712.1.4.1.4_Acceptable_Field_Welding_Processes): Welding procedures submitted to Bridge Division prior to any stick welding on bridges. * [EPG 751.2.2.5](http://epg.modot.org/index.php/751.2_Loads#751.2.2.5_Blast_Loading): Consider AASHTO's blast loading provisions with the approval of the State Bridge Engineer. * [EPG 751.36.1.5](http://epg.modot.org/index.php/751.36_Driven_Piles#751.36.1.5_Geotechnical_Redundancy): Consider a stricter application of pile redundancy guidance. * [EPG 751.37.1.3](http://epg.modot.org/index.php/751.37_Drilled_Shafts#751.37.1.3_Casing): Larger minimum casing thickness used drilled shafts for bridges over a river or lake. * [EPG 751.37.3](http://epg.modot.org/index.php/751.37_Drilled_Shafts#751.37.3_Design_for_Axial_Loading_at_Strength_Limit_State) & [EPG 751.37.4](http://epg.modot.org/index.php/751.37_Drilled_Shafts#751.37.4_Design_for_Axial_Loading_at_Serviceability_Limit_States): Smaller resistance factor for drilled shafts. * [EPG 751.38.3](http://epg.modot.org/index.php/751.38_Spread_Footings#751.38.3_Design_for_Axial_Loading_at_Strength_Limit_States) & [EPG 751.38.4](http://epg.modot.org/index.php/751.38_Spread_Footings#751.38.4_Design_for_Axial_Loading_at_Serviceability_Limit_States): Smaller resistance factor for spread footings. * [EPG 756 LFD](http://epg.modot.org/files/6/66/756_LFD_flow_chart_2019.pdf) & [EPG 756 LRFD](http://epg.modot.org/files/0/04/756_LRFD_flowchart_2019.pdf): See State Bridge Engineer for bridge seismic design. |
| **Priority 1 or 2 Earthquake Emergency Routes** |
| * [EPG 756 LFD](http://epg.modot.org/files/6/66/756_LFD_flow_chart_2019.pdf) & [EPG 756 LRFD](http://epg.modot.org/files/0/04/756_LRFD_flowchart_2019.pdf): Perform complete seismic analysis using current MoDOT seismic design philosophy. |